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*Diane Swanger*  
Diane Swanger



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# United States Patent [19]

Beelman et al.

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## [54] PRESERVATION COMPOSITIONS AND METHODS FOR MUSHROOMS

[75] Inventors: Robert B. Beelman; Eric M. Duncan, both of State College, Pa.

[73] Assignee: The Penn State Research Foundation, University Park, Pa.

[21] Appl. No.: 09/120,905

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### Related U.S. Application Data

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[52] U.S. Cl. .... 426/268; 426/303; 426/310; 426/335; 426/615

[58] Field of Search ..... 426/335, 303, 426/310, 615, 268; 252/380

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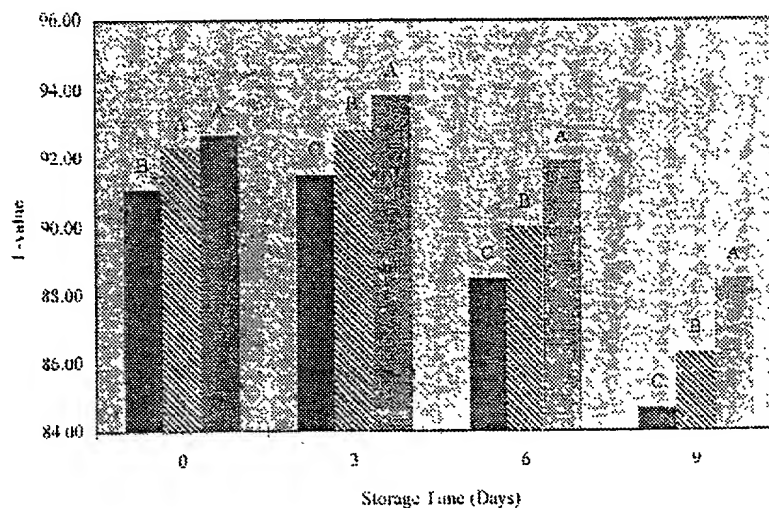
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Primary Examiner—Nina Bhat  
Attorney, Agent, or Firm—Thomas J. Monahan

## [57] ABSTRACT

Preservative compositions using toxicologically acceptable ingredients, and employing a pH of 9.0 or above for at least part of the process, for controlling the growth of spoilage bacteria and for preventing unwanted color changes in fresh and processed mushrooms. Aqueous solutions of preservatives are prepared and applied in multiple stages to the mushrooms, by spraying or immersion. More specifically, disclosed is a method for preserving fresh and processed mushrooms, comprising the steps of: contacting the mushrooms with an antimicrobial buffer solution having a pH of from about 9.5 to about 11.0; and rinsing the mushrooms one or more times immediately after the contacting step with pH-neutralizing buffer solutions of erythorbic acid and sodium erythorbate, in ratios of about 1:4, with a sufficient pH to return the mushrooms to the mushroom physiological pH of about 6.5.

8 Claims, 20 Drawing Sheets



■ 1. Sodium bicarbonate @ pH 11.0, 120s: 0.8% Ea + 3.2% NaE, 60s

■ 2. Sodium bicarbonate @ pH 11.0, 120s: 0.8% Ea + 3.2% NaE + 1000 ppm EDTA, 60s

■ 3. Sodium bicarbonate @ pH 11.0, 120s: 0.8% Ea + 3.2% NaE + 1000 ppm EDTA + 1000 ppm Cat. 17, 60s